

REMARKS

Claims 1, 2, 4, 5 and 7-10 are now pending in the present application. Claims 1, 4 and 7 have been amended. Claims 3 and 6 were canceled by a previous Amendment. Claims 1, 4 and 7 are independent. Reconsideration of this application, as amended, is respectfully requested.

Examiner Interview

A telephone interview was conducted with the Examiner in charge of the above-identified application on or about June 26, 2005. In the Interview with the Examiner, the Examiner indicated that a formal interview could not be conducted for several weeks, due to the Examiner's schedule. Applicant's representative explained to the Examiner that additional amendments would be presented after final to address the Examiner's rejections of record. Applicant's representative was concerned that the Examiner would issue a first Office Action final if the amendments to the claims were not presented after final and denied entry by the Examiner as being directed to a new issue. The Examiner indicated that it is his policy not to issue first Office Action final rejections, as long as the claims are amended in a substantive way. In view of this, rather than presenting the present amendments after final, the present amendments have been presented after the filing of a Request for Continued Examination.

Applicants submit that the present amendment provides substantive amendments to all of the independent claims. In view of this, it is believed that a first Office Action final rejection would not be proper in the present situation, if the Examiner persists in a further rejection of the present application.

Rejection Under 35 U.S.C. § 102

Claims 1, 2, 4, 5 and 7-10 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Lutz et al, USPN 6,592,465. This rejection is respectfully traversed.

The present invention is directed to a ball trajectory measuring apparatus. Independent claims 1, 4 and 7 exemplify the present invention and recite a combination of elements including the recitation "a calculating portion for calculating position coordinates of the ball based on image data obtained by the first, second and third cameras, and base on calculating position coordinates, directions of optical axes and angles of view of the respective cameras." In addition, claims 1 and 4 recite "wherein the angle of view of the first camera partially overlaps with that of the second camera, and the angle of view of the second camera is related to that of the first camera based on ball images which are simultaneously photographed by the first camera and the second camera, and a correspondence of the coordinates in the angle of view of the first camera to those in the angle of view of the second camera is grasped by calculating means." In addition, independent claim 7 recites "wherein the first camera and the second camera are located at substantially the same distance and at substantially the same position directly behind the launch point, said first and second cameras

are inclined upward from a horizontal direction, and an angle of inclination of said first camera is greater than an angle of inclination of said second camera." Applicant respectfully submits that the Lutz et al. reference relied on by the Examiner fails to teach or suggest the present invention as recited in independent claims 1, 4 and 7.

Referring to FIGS. 7 and 8 of Lutz et al., cameras 314a and 316 are provided behind the launch point and after the drop point, respectively. In addition, cameras 312a-312d are provided between the launch point and the drop point and aligned with the flight path FP.

In Lutz et al., there is no description with regard to relating the angles of view of the cameras. Specifically, there is no disclosure in Lutz et al. of the first and second cameras having an angle of view that is related to each other "based on ball images which are simultaneously photographed by the first camera and the second camera" as recited in independent claims 1, 4 and 7 of the present invention.

Referring to page 8, lines 22-32 of the present specification, the above aspect of the present invention is further described. Specifically, it is described that the first camera and the second camera are synchronized with each other. In addition, it is described that the angle of view of the first camera and the angle of view of the second camera are related to each other based on data of the ball images. In other words, the correspondence of the coordinates in the angle of view of the first camera to those in the angle of the second camera is grasped by calculating means (see page 8, lines 30-32 of the present specification).

In order to clarify this aspect of the present invention, as the Examiner will note, independent claims 1 and 4 have been amended to recite “a correspondence of the coordinates in the angle of view of the first camera to those in the angle of view of the second camera is grasped by calculating means.”

In Lutz et al., plural cameras are synchronized with each other. However, Lutz et al. does not disclose relating the plural angles of view based on ball images. It appears that the Examiner has taken the position that “synchronizing” and “relating based on ball images” are equivalent. However, this is not the case. Synchronizing simply means that each camera is timed to operate at a particular time during the flight of the ball. However, relating the angles of view based on ball images means that the correspondence of the coordinates in the angle of view of the first camera to those in the angle of view of the second camera is grasped by calculating means.

Since the Lutz et al. reference fails to disclose relating the angles of views of the cameras based on the data of the ball images, Applicant respectfully submits that the Lutz et al. reference fails to anticipate independent claims 1 and 4 of the present invention for this additional reason.

In addition to the above, Applicant submits that the Lutz et al. reference fails to disclose first, second and third cameras as recited in independent claims 1, 4 and 7. In independent claims 1 and 7, first and second cameras photograph a back of a flying ball and a third camera photographs a front of the flying ball. In Figure 1 of Lutz, there is no camera that photographs the front of the ball. The cameras 14a and 14b photograph the

back of the ball 22 and the cameras 12a-12d photograph the bottom of the ball 22. In Figures 5-8 and 10, only the cameras 114a, 214a, 314a, 314a and 514, respectively, photograph the back of the ball 22. Finally, in Figure 9, two cameras 414b and 414a photograph the back of the ball 22; however, there is no camera that photographs the front of the ball. In view of this, none of the embodiments of Lutz et al. anticipate independent claims 1 and 7 of the present invention for this additional reason.

With regard to independent claim 4, this claim recites first and second cameras that photograph a back of the ball and a third camera that photographs the front of the ball. Since Figures 1 and 9 do not disclose any cameras located after the ball drop point and Figures 5-8 and 10 only disclose one camera after the ball drop point, Lutz et al. fails to disclose first and second cameras that photograph the front of the ball as recited in independent claim 4 of the present invention. Therefore, Lutz et al. fails to anticipate independent claim 4 for this additional reason.

With specific regard to independent claim 7, this claim also recites “wherein the first camera and the second camera are located at substantially the same distance and at substantially the same position directly behind the launch point, said first and second cameras are inclined upward from a horizontal direction, and an angle of inclination of said first camera is greater than an angle of inclination of said second camera.” In the Examiner’s Office Action, the Examiner has provided no comments with regard to how the Lutz et al. reference anticipates the subject matter of independent claim 7. Referring to Figure 1 of Lutz et al., the cameras that photograph the back of the flying ball (the first and second cameras of claim 7)

would be the cameras 14a and 14b. Since the cameras 14a and 14b are not "located at substantially the same distance and at substantially the same position directly behind the launch point," Applicant submits that Figure 1 of the Lutz et al. reference fails to anticipate independent claim 7 of the present invention for this additional reason.

In the Examiner's Advisory Action dated June 15, 2005, The Examiner appears to take the position that the recitation "substantially the same position" means "substantially the same distance" behind the launch point. Although Applicant does not agree with the Examiner's interpretation of this recitation, claim 7 has been further amended to recite "wherein the first camera and the second camera are located at substantially the same distance and at substantially the same position directly behind the launch point." Referring to Figure 1 of Lutz et al., the cameras 14a and 14b may be substantially at the same distance behind the launch point; however, the cameras 14a and 14b are not located at the same position and they are not located "directly" behind the launch point. The camera 14a is located at a position that is on an entirely different side of the ball 22 from the camera 14b. Therefore, claim 7 of the present invention is not anticipated by the Lutz et al. reference for this additional reason.

With regard to Figures 5-8 and 10 of Lutz et al., there is only one camera (114a, 214a, 314a, 314a and 314, respectively) in each of these figures that is located behind the launch point. In view of this, Figures 5-8 and 10 fail to disclose two cameras (first and second cameras) "located at substantially the distance and at substantially the same position directly behind the launch point" as recited in independent claim 7. Therefore, Figures 5-8 and 10 also fail to anticipate independent claim 7 for this additional reason.

With regard to Figure 9, there are two cameras (414a and 414b) that are located behind the launch point. However, these cameras are not located "at substantially the same distance and at substantially the same position directly behind the launch point" as recited in independent claim 7. Referring to column 11, line 58 to column 12, line 22 of Lutz et al., Figure 9 is described. It is clear from this description that the camera 414b is located "vertically above" the camera 414a, specifically, "about 30 feet above" the camera 414a. In view of this, these cameras are not located as recited in independent claim 7 of the present invention.

In addition, claim 7 states that "an angle of inclination of said first camera is greater than an angle of inclination of said second camera." Figure 9 clearly shows that both cameras have the same angle of inclination, i.e., an angle of inclination of zero. Therefore, Figure 9 of Lutz et al. fails to anticipate claim 7 of the present invention for this additional reason.

With regard to dependent claims 2, 5 and 8-10, Applicant respectfully submits that these claims are allowable due to their respective dependence upon allowable independent claims 1 and 4, as well as due to the additional recitations in these claims.

With specific regard to dependent claims 8-10, the Examiner has provided no explanation as to how the Lutz et al. reference discloses the aspects of the present invention recited in these claims. It is requested that the Examiner explain his position in the next Official Communication.

In view of the above amendments and remarks, Applicant respectfully submits that claims 1, 2, 4, and 7-10 clearly define the present invention over the Lutz et al. reference

relied on by the Examiner. Accordingly, reconsideration and withdrawal of the Examiner's rejection under 35 U.S.C. § 102 are respectfully requested.

CONCLUSION

Since the remaining references cited by the Examiner have not been utilized to reject the claims, but merely to show the state-of-the-art, no further comments are deemed necessary with respect thereto.

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently pending rejections and that they be withdrawn.


It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Paul C. Lewis, Registration No. 43,368 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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